

ABSTRACT OF THE DISCLOSURE

A distributed block frequency converter that combines multiple channel signals into a combined radio frequency (RF) signal suitable for transport via selected media. The converter includes combiners that each combine at least two channel signals into a combined channel signal, an up-converter synthesizer that generates an up-converter local oscillator (LO) signal, up-converter mixers that each mix a combined channel signal with the up-converter LO signal to provide a corresponding intermediate frequency (IF) signal, bandpass filters that each filter an IF signal, down-converter synthesizers, down-converter mixers that each mix a down-converter LO signal with a corresponding filtered signal to provide a corresponding RF signal, and an RF combiner that combines the RF signals into a single RF signal. The down-converter synthesizers are adjustable to achieve frequency agility on a block by block basis.